

Appl. No. 10/607,869

REMARKS

Claims 49, 50 and 55 are amended. Claims 49-61 are pending in the application. Claims 50-54 and 57-59 are withdrawn from consideration.

Claim 49 stands rejected under 35 U.S.C. § 102(e) as being anticipated by Kunikiyo, U.S. Patent No. 6,661,065. The Examiner is reminded by direction to MPEP § 2131 that anticipation requires each and every element of a claim to be disclosed in a single prior art reference. Claim 49 is allowable over Kunikiyo for at least the reason that the reference fails to disclose each and every limitation in the claim.

As amended independent claim 49 recites forming an insulator layer of a silicon-on-insulator circuitry where the forming comprises forming a first silicon dioxide layer on a first substrate, forming at least a portion of a second silicon dioxide layer on a second substrate and joining the first substrate to the second substrate, the insulator being formed to comprise a first silicon dioxide region, a silicon nitride comprising region in contact with the first silicon dioxide region and a second silicon dioxide comprising region in contact with the silicon nitride comprising region. Kunikiyo discloses forming various insulator materials (82, 72) over a silicon layer (74) and indicates that the insulating film can comprise more than two layers (Figs. 33-42 and the accompanying text at col. 25, ll. 66 through col. 27, ll. 42, and the text at col. 28, ll. 51-54). Kunikiyo further indicates forming a transistor over the resulting silicon-on-insulator structure (Fig. 49 and the accompanying text). Kunikiyo does not disclose the claim 49 recited forming an insulator layer where the forming comprises joining a first and second substrate. Nor does Kunikiyo disclose the claim 49 recited forming a first silicon dioxide layer on a first substrate, and forming a second silicon dioxide layer on a second substrate to produce an insulator comprising first and second

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silicon dioxide regions with an intermediate silicon nitride region. Accordingly, independent claim 49 is not anticipated by Kunikiyo. Further, Kunikiyo does not suggest these recited features and claim 49 is not rendered obvious by this reference.

Claims 55-56 and 60-61 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kunikiyo in view of Xiang, U.S. Patent No. 6,410,938. The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. Claims 55-56 and 60-61 are allowable over the combination of Kunikiyo and Xiang for at least the reason that the references fail to disclose or suggest each and every limitation in any of those claims.

As discussed above, independent claim 49 is not anticipated by or rendered obvious by Kunikiyo. As indicated at page 4 of the present Action, Xiang is relied upon as disclosing utilizing ion implantation to nitridize a preformed layer. However, Xiang does not disclose or suggest joining of a first and second substrate as recited in claim 49. Further, the nitridation by ion implantation disclosed by Xiang does not contribute toward suggesting the claim 49 recited forming an insulator layer by forming a first silicon dioxide layer on a first substrate and forming a second silicon dioxide layer on a second substrate where the insulator layer includes an intermediate silicon nitride region between a first silicon dioxide region and a second silicon dioxide region. Accordingly, as combined Kunikiyo and Xiang fail to suggest each and every element of claim 49 and such is not rendered obvious by the cited combination.

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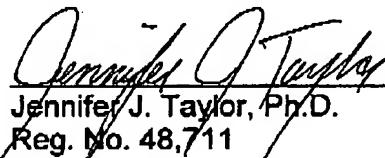
Dependent claim 55 is amended to properly depend from claim 49. Dependent claims 55-56 and 60-61 are allowable over the cited combination of Xiang and Kunikliyo for at least the reason that they depend from allowable base claim 49.

For the reasons discussed above claims 49, 55-56 and 60-61, currently under consideration, are allowable. Accordingly, applicant respectfully requests formal allowance of such claims in the Examiner's next action.

Respectfully submitted,

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